

1988 Editorial Index

ROBOTICS WORLD

Volume 6

Numbers 1-8

This year's ROBOTICS WORLD index covers editorial material from January 1988 through the November/December 1988 issues.

Each feature article is listed by title under the subject heading ARTICLES, FEATURE; by author under subject heading AUTHORS and by subject under headings such as ASSEMBLY and WELDING. The magazine's departmental material is indexed under the name of the department, including special show sections. Machine vision equipment and literature items are indexed under MATERIAL AND EQUIPMENT and LITERATURE headings respectively. Machine vision news items are listed under VISION NEWS.

Each entry is followed by the month of issue and the page number of the issue in which the material was published. "Dir" stands for the ROBOTICS WORLD Directory, which was published as the August issue. Major subject headings include: ADHESIVES, ASSEMBLY, COMPONENTS, COMPUTERS, CONTROLS, EDITORIAL, MATERIAL HANDLING, PRODUCT FOCUS, ROBOTIC INDUSTRIES ASSOCIATION, VISION and WELDING.

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 Conveyor Strategy Links Production Line — *Richard Rinier and Peter Kandis*
 Pre-tinning Circuit Boards at Texas Instruments — *Robert Folaron*
 Robot Reduces Rejects And Halves Cycle Time
 Robots Handle 180,000 Keys for New York Telephone — *Raymond F. Reilly*

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NEWS OF THE INDUSTRY
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 AMS To Install Tire Palletizing System Analysis Shows Growth of SMT in Assembly
 Apparel Technology Centers to Demonstrate Automation
 Appliance Industry Increasing Use of Robots and Vision
 Assembly Line Produces Automotive Door Locks
 AT&T Labs Unveils System For Batch Connections
 Automated Dynamics Awarded Research Funds
 Campbell Installs Machine at Aircraft Manufacturer
 Chrysler Increases Robot Use at Belvidere Plant
 CIM Cell Developed to Teach Students CIM Cell Training Center Opens at Rock Valley College
 CIMCORP Announces Three-year Warranty
 Cincinnati Milacron Receives Chrysler Pentastar Award
 Cincinnati Milacron Unites Robot Operations
 Clay-Mill Receives Contracts For Gantry Robot Systems
 Demonstration CIM Factory Integrates Five Cells
 Diamond-Star To Use Robotics in New Plant
 ESAB Product Increases Varco-Prueden's Productivity
 Experimental Manipulator Has Static-balance Design
 Ford Orders AMS Systems for St. Louis Aerostar Plant
 Georgia Plans \$30 Million Manufacturing Center
 GMF To Supply Systems to Bendix and Dresser
 Harmonic Drive Establishes U.S. Distribution Company
 Hudson Finishes Robotic Chamber
 Hughes Aircraft Orders Denning Research Vehicles
 Intelligent Material Handling Market to Reach \$1.7 Billion
 ITP Wins Contract For Cell Control Program
 John Deere Installs AGVs in Warehouse

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Thermwood Enters Gantry Robot Market
 Three Leaders Named Engelberger Award Winners
 Tie Down Engineering Increases Productivity
 Tool Builders Group Broadens Membership
 Unimate Completes Move To Prab Headquarters
 Washington University Forms CIMCenter
 Westinghouse Gantry Robot to Work on Wire Harnesses
 Xerox To Build Automated High-rise Warehouse
NOTED IN PASSING

Adapting to Signal Delay
 Automatic People Mover Makes Life Convenient
 Bossing Robotic 'Employees'
 Device Measures Hand Motion
 'Dexter' Offers Helping Hand To Deaf-Blind People
 Do Microrobots Have Gigantic Potential?
 Electronic Sorter Handles Delicate Fruit With Care
 A Green Thum... er, Gripper
 Guidance System Keeps Lawn Mower Path Straight
 Maybe Robots Could See Better Wearing Sunglasses
 'Murray' Greets Visitors to National Scouting Museum
 Never Fear, Robotics Won't Take Over Workplace
 Perkin-Elmer Lab Robotics Featured in Traveling Exhibit
 Robot Work Station Gives Quadriplegic Independence
 Robotic Cameras Zoom In at NBC
 Robotic Precision Helps With Hip Implant Surgery
 Robots a Peachy Innovation for Fruit Harvesting Chore
 Robots in Construction: Buildings of the Future
 Six Legs Beneath the Sea
 Student Robot-maker Selected In Talent Search
 Voice-controlled Robot To Help the Handicapped
P

PAINTING ROBOT SURVEY

AKR Robotics Inc.
 DeVilbiss Co.
 GMFanuc Robotics
 Graco Robotics
 Netzsch
 Thermwood Corp. Material Application Division
 Tokico America
 PRODUCT FOCUS (See listings under following titles for names of participating companies)

Cameras Propel Machine Vision Applications (Product Focus)
 Controllers Link Machines In Workcells

Conveyors and Positioning Equipment for Automation Needs
 Drive Systems Solve Motion Control Equation
 End-effectors Expand Application Areas

Safety Devices Protect People and Equipment
 Waterjet Cutting: A Versatile Tool
 Wires, Connectors and Carriers Meet Demands of Robotic Systems
 Vision Cameras
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Hobbyists Wanted To Join NSRA
 New Draft Standard Developed for Pendants
 New Safety Product Directory Available
 Next Safety Seminar Oct. 19-20 in Detroit
 OSHA Guideline Cites RIA Safety Standard
 Pharmaceutical Manufacturers Using More Robots and Vision
 Register Now for Upcoming RIA Seminars
 RIA Expands In-House Seminar Programs
 RIA Meeting Stresses Quality, Competitiveness
 RIA Now Developing Robot Safety Directory
 RIA Offers Customized Automation Seminars
 RIA Offers In-House Safety Seminars
 Robots 12/Vision '88 Set June 7-9 in Detroit
 Robots 12 and Vision '88 Combine For First Time
 Seminar Targets Companies Considering Robotics
 Service Robot Session at Robots 12
 Service Robots to Be Featured at Robots 12
 Three Leaders Named Engelberger Award Winners
 Top Executives to Speak at Annual Meeting
 Vision Performance Standard Available

R

RESEARCH

Expanding Future Applications Goal of New Developments — *Jill Conversano*

Research (Directory Listings)
 Robots/Robotic Systems/Vision Systems Suppliers (Directory Listings)
ROBOTIC INDUSTRIES ASSOCIATION

Annual Meeting to Focus on Quality Theme
 Appliance Industry Increasing Use of Robots and Vision
 Automation Trade Show List For Rent
ROBOTICS WORLD/JANUARY/FEBRUARY 1989

ROBOTS 12/VISION '88 (Cont.)			
Technology Leaders	Jun 84	TRADE LITERATURE (Cont.)	
Technovate	Jun 83	niques)	Sep/Oct 48
Texas Instruments	Jun 84	M/60000 Modular Handling Units —	
3M	Jun 88	Low Cost Automation (Norgren Mar-	
Turck Multiprox	Jun 84	tonair Ltd.)	Mar 49
VOLPI	Jun 83	Machine Tool Brochure (UVA Ma-	
Weldmuler	Jun 88	chine)	Jun 126
Wire Crafters	Jun 85	Modular Automation (PHD)	Apr 49
		Move Into the Future with ServoDisc	
S		Technology (PMI Motion Technolo-	
SAFETY DEVICES PRODUCT FOCUS		gies)	Feb 48
Barry Wright	Sep/Oct 39	New Generation of Compact Linear Po-	
Dolan-Jenner	Sep/Oct 41	sitioners (Klinger)	Sep/Oct 48
E.J.A. Engineering	Sep/Oct 41	New Lives for Robots (Prab)	Jun 126
EOA Systems	Sep/Oct 39	1988 Products Guide and Price Sched-	
Gordon Engineering	Sep/Oct 41	ule (Burle)	Sep/Oct 45
Guardimark	Sep/Oct 40	Optical Encoder Design Guide (BEI	
Herga	Sep/Oct 41	Motion Systems)	Jan 42
Mayer	Sep/Oct 41	PartPainter Automation Cell Video	
Mecanotron	Sep/Oct 39	(Thermwood)	Jun 126
Miller Edge	Sep/Oct 41	PartPainter PR24 and PR36 (Therm-	
Ramco	Sep/Oct 39	wood)	Feb 49
Robotic Accessories	Sep/Oct 40	Plenum Cables (Alpha Wire)	Feb 48
Scientific Technologies	Sep/Oct 41	PL-SEE: Automate Your Inspection	
Triad Controls	Sep/Oct 40	(Allen-Bradley)	Sep/Oct 45
		Power Conversion Products (Power	
T		General)	Feb 49
TRADE LITERATURE		Product Data Publication (Allen-Brad-	
Absocoder (Emprotech)	Nov/Dec 49	ley)	Jun 126
AC Servo Motor Controller Brochure		Pronto! 60 Spec Sheet — Bulletin 3012	
(Contraves)	Jun 126	(Control Engineering)	Jun 126
Adaptive Intelligence Robots for Preci-		Proximity Sensors (Hamlin)	Apr 49
sion Assembly and Processing (AMS)	Sep/Oct 48	Recirculating Crossed Roller S'ide	
Advanced Automation Products Cata-		Guides (Del-Tron)	Sep/Oct 48
log (Mack)	Jun 126	Relcon Company Brochure	Nov/Dec 49
Advanced Cable Technology (Olfex		Robotics Courseware (Rhino Robots)	Feb 49
Wire & Cable)	Mar 49	Robotics Remanufacturing (Prab Ro-	
Advanced Manufacturing Technology		bots)	Jan 42
Data File, Volume 1 (British Robot		Robotics Start Simple (MACK Corp.)	Mar 49
Association)	Jan 42	Rotating Components for Industry	
AGV Systems Brochure (Interlake)	Jun 126	(Servo-Tek Products)	Feb 48
AKR Robotics	Sep/Oct 48	Sensors Catalog (Siemens)	Sep/Oct 48
Application Manual on Astek Remote		Shark X and XL Series (Reliance Elec-	
Center Compliances (Barry Wright)	Sep/Oct 48	tric)	Mar 49
Applications of Integrated Circuits to		Steady Rests and Automation Grippers	
Motor Drives (Oriental Motor USA)	Jun 126	(Arobotech Systems)	Feb 48
Arc Welding Equipment Selector Guide		Stepping Motors (Oriental Motor USA)	
(Miller Electric Manufacturing)	Jan 42	Technical Catalog (Barry Wright)	Mar 49
Are Robots Safe? (Swedish Institute of		Three-Step Guide to Greater Efficiency	
Production Engineering Research)	Jun 126	In Manufacturing, Assembling and	
ATM Robots for Plastic Injection		Testing Electronic Products (Ermanco)	
Molding Machines (ATM Automation)		Torque Motor Bulletin (Reuland Elec-	
.....	Nov/Dec 49	tric)	Nov/Dec 49
Auto-Pak Bulletin (AM Systems)	Jun 126	Unimate PUMA Industrial Robots	
Automated Assembly Systems (Anatol		(Westinghouse Electric)	Feb 48
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Automated Handling of Bulky Parts		(ESAB)	Nov/Dec 49
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Automation Choice, The (Pressflow		Co.)	Mar 49
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Benchtop Automation (Asymtek)	Mar 49	hicles (Apogee Robotics)	Feb 49
Brushless DC Motor Handbook (Inland		X95 Support System (Klinger Scientific)	
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Complete Positioning Company (An-		cations	Nov/Dec 26
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Crossed Roller Slides for Precision Lin-		Joints — Ian Ferrier	Nov/Dec 22
ear Motion (Del-Tron Precision)	Feb 49	Lead Verification Process Uses Scan-	
Custom Robotics (Quench Press Spe-		ning System	Apr 40
cialists)	Feb 48	Lighting and Optics: Some Expert Ad-	
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Electronics Catalog (Contact East)	Jun 126	fects in Porous Plastic — Marshall	
Everlase E Series Lasers (Coherent General)	Feb 48	Jones	Nov/Dec 19
FAB-TEC Systems and U-Fab System		Lower Costs Driving Vision's 'New	
and Blue Steel Components (Prab)	Mar 49	Wave' — Donald Christian	Sep/Oct 42
FACTOR Data Sheets (Factrol)	Feb 49	Optimizing Inspection Location — Wil-	
Flexible Assembly Systems from Alli-		liam H. Sawyer	Mar 20
ance (Alliance Automation Systems)	Mar 49	Successes Demonstrate Inspection Reli-	
Flexible Gaging (Brown & Sharpe Man-		ability — J. Michael Dickey	Feb 37
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Growing Force in Material Handling		tainers	Jan 32
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HY-Sync Motors & Gearmotors (Bodine		Levitt	Jun 110
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IAC-186 Intelligent Access and Process		Sealing — Paul D. Baker	Mar 28
Controller (Anorad)	Apr 49	Vision Simplifies Disk Drive Assembly	
Identifying Vision Applications (Vision		— Dan A. Krage	Mar 24
Systems International)	Sep/Oct 45	VISION NEWS (Cont.)	
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Bradley)	Feb 49	AISI Delivers Vision System	Feb 40
Industrial Fiber Optic Information Links		American Cimflex Signs Agreement	Jun 115
(EOtec)	Feb 49	Angstrom Uses Cognex	Sep/Oct 44
Japan Artificial Intelligence Newsletter		Ball Awarded Coors Contract	Mar 30
(JAIR International)	Feb 49	Boeing, TI Buy Systems	Sep/Oct 44
Keep Industry in Motion... (ASE)	Mar 49	Contracts Total \$1.5 Million	Jun 115
Linear Motion Products Catalog		EG&G Designs Image Sensor	Mar 30
(Techno)	Apr 49	Elicon Designs Mapping Robot	Feb 40
Load Cell Catalog (Transducer Tech-		GM Awards Sealant Contract	Feb 40
		'Light Bridge' Guides Vehicles	Sep/Oct 44
		Lixi Systems Sold In Japan	Mar 30
		WASHINGTON WIRE	
		Army Offers Process-Planning Software	
		to U.S. Companies — Doug M. Podolsky	Apr 5
		Consortium Established to Boost Ad-	
		vanced Manufacturing Technologies —	
		Doug M. Podolsky	Jan 4
		Diversification Needed In Robotics,	
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		Figuring High Tech's Impact on Work-	
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		Japanese Consortium Developing Mo-	
		obile Robots for Hazardous Duty —	
		Doug M. Podolsky	Jun 6
		List of Proposals on Launch Agenda	Jan 5
		Miniaturization Revolution: Research-	
		ers Working Toward Microscale Ro-	
		bots — Doug M. Podolsky	Nov/Dec 6
		Navy Gets Robotic Workstation For Sub-	
		Parts, Explores Automated Shipbuild-	
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		ity — Doug M. Podolsky	Mar 6
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		Pace	Apr 19
		Automation Boosts Productivity in	
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		Laser Camera Tracks Zero-Gap Weld	
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